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किं हि संस्कृतम्
स्वं नियन्त्रयताम्
12·3 V2

...धुनिकज्ञानविज्ञानप्रसाराय

...संस्कृतं स्वं नियम्यताम् ?

...uld Sanskrit shut the ...new scientific knowledge ?

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पुस्तकमिदं
साहित्यसेवायां व्यतीतपुरुषायुषाणां
पं० नरेन्द्र भार्गव महोदयानां
स्मृतौ प्रकाशितम्

महर्षि-पाणिनि-प्रज्ञा-...-स्थान
तिथी.....
पु०सं०.....
श्री पुस्तकालय

The book is published
On the solemn memory of
Late Pt. Narendra Bhargava
a man of letter and literature.

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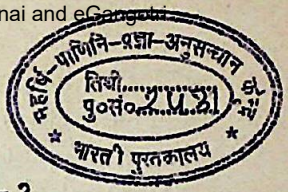

आधुनिक विज्ञान प्रसाराय

किं हि संस्कृतं स्वं नियम्यताम् ?

संस्कृतं हि नाम विपुलं ज्ञानराशिं, विपुलं साहित्यम् अस्मभ्यं प्रदत्ते। वागेषा समेष्वपि दिग्देशकालेषु ज्ञानं विज्ञानं च समगोपायत् प्रासारयच्च। भारतीयैतिह्ये नास्ति कोऽपि कालखण्डः यत्र विदुषां मेधातपसी न प्रवर्धिते स्याताम् तत्प्रमाणभूते शास्त्रव्याख्याने वा न निर्मिते स्याताम्। संस्कृतं तेन निर्मितं च गाथाशास्त्रं दर्शनशास्त्रादिकं सर्वमपि साहित्यं सर्वदा समेषां विश्वेषां मनुजानां मानसम् अमथ्नात् इत्यत्र नास्ति कश्चन सन्देहसन्दोहः। अत एवाद्यापि संस्कृतं सर्वेषामपि जनानां श्रद्धास्पदं वरिवर्ति।

समे संस्कृता विद्वांसः ज्ञानविज्ञाननिरीक्षणविधौ तर्कदृष्ट्या प्रैर्यन्त। विविधदर्शनसम्प्रदाया अद्यापि विश्वज्ञानसंग्रहाय बहुमूल्या-

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Should Sanskrit shut the lips of new scientific knowledge ?

Sanskrit language has placed the immence knowledge, a vast treasury of texts at our disposal. It is rightly recalled to preserve the fund of knowledge in time and to spread in space. In no period of Indian history have Sanskrit scholars left the laurels of intellectual conquest as was reflected in the mass of literature on variety of subjects. The language and literature therein have, in fact, built a specific frame of mind of Indian people with the myths, customs and philosophy etc. That is why the Sanskrit has still become the profession of faith for millions of people.

Our scholars were always inspired with the spirit of inquiry into the rationale of all the subjects of their

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वदानरूपेण स्वीक्रियन्ते। यतो हि दार्शनिकास्तत्र सूक्ष्मतर्कदृष्टेः प्रतिमानमुपातिष्ठिपन्। उपलब्धैरुपकरणैस्ते सर्वानपि विचारविशारदान् अत्यक्रामन्। नवीनानां विचाराणाम् आलोके ते सर्वदा नवविचारायोद्यता आसन्। प्राचि प्रचलिता परिष्कारपद्धतिरर्थममुं सर्वथाऽन्वद्योतयति। सर्वेऽपि सर्वदा तर्कतुलासु निपुणं निरीक्षणीया इति मुक्तकण्ठमाह भास्कराचार्यः—युक्तियुक्तं वचो ग्राह्यं न तु पुरुषगौरवात्।

परं विगतात् शताब्दद्वयात् स्थितिरेषा नालक्ष्यते। दर्शनशास्त्रेषु भौतिकीरसायनादिविषयेष्वपि विचित्रोऽसौ स्थेमा सन्दृश्यते। आधुनिकविज्ञानदिशा परिवृत्तिसहा अपि विषयास्तथैव प्राचीनया सरण्या अधीयन्ते अध्याप्यन्ते च। आधुनिकं विज्ञानं सूक्ष्मयन्त्रबलेन

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experiments. The schools of philosophy regarded to be the greatest contribution to the stock of human knowledge, have kept the specimen of rationality and the model of erudite scholarship. Our philosophers with the appliances of their command have advanced in new light of knowledge. That they have kept themselves abreast of new knowledge is manifested by the then existing system of modification. The concept of these scholars that the previous conception is liable to be modified under the discovery of fresh observation, appears to be condensed in the remarks of Bhaskaracharya, "What is rational alone should be accepted nothing merely on the basis of some person's authority".

But it is for about two centuries past that philosophy even relating to the physics and chemistry has to face a sort of stagnation in thinking and judging of new shades of thought. The principles, not solvent to the modern science are being read and taught without the least alteration on them, Modern science, no

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सुसूक्ष्ममापनयुतं सिद्धान्तं प्रतिष्ठापयितुं क्षमते। वस्तुतत्त्वानां रचनं स्वरूपं चातिसूक्ष्मावस्थान्तं निर्धारितं विद्यते। प्रक्रियैषाऽद्यापि सुतरां प्रचलति। नूतनं विज्ञानं प्रयोगपरिणामाश्च विद्यालयानां भौतिकी-विज्ञानादिपाठ्यक्रमेषु सर्वथा समावेश्यन्ते, येन छात्रा अद्यतनं ज्ञानं याथातथ्यम् अवबुध्येयुः, आधुनिकज्ञानस्तरीयं च स्वं सम्पादयेयुः।

परं संस्कृतं दर्शनशास्त्रम् आधुनिकविज्ञानशोधं प्रति दृष्टिमेव न ददाति, तद्विज्ञानशोधस्य दर्शनपाठ्यक्रमे समावेशनस्य तु का कथा !! एवं संस्कृतजनानां भाग्यं परिष्कारव्यपेतदर्शनशास्त्राणाम् अध्ययने अध्यापने च पिहितं विद्यते। संस्कृतं वयम् आद्रियामहे, परं किम् आधुनिक-विज्ञान-विपरीतसिद्धान्तं प्रति प्रीतिनिर्वहणेन संस्कृत-समादरस्य मूल्यं प्रदास्यते? संस्कृतं वयं शुश्रूषामहे–किमियता हेतुनैव नवीनशोधस्य सर्वाण्यपि द्वाराण्यस्माभिः पिधास्यन्ते?

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doubt, has reached high level of accuracy on principles by the strength of minute instruments. The form and nature of things and the concepts of elements are decided to a marvellous extent and this process is still going on gathering volume. The new facts and results are included in the curriculum of science in schools and colleges to let the students be acquainted with them and to make them able to go hand in hand with up-to-date knowledge.

But Sanskrit philosophy has no reference with these investigations, not to speak of including them in its texts. The fate of Sanskritists is thus decided to learn and teach such principles that admit of no modification on themselves. Should we love Sanskrit at the cost of clinging to the doctrines which are only true of some, not true of all? As we love Sanskrit, are we to shut all the doors of further researches? In spite of the fact that the system of modification was

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परिष्कारपद्धतिः पूर्वं प्रचलिताऽपि किं साम्प्रतं निलयाय गमिष्यते ? किं देवी वागिदानीम् अन्तर्दन्तकं संवर्तिष्यते ?

इदमेव चिन्तनं पं. जवाहरलाल नेहरू महोदयः स्वकीये महनीये ग्रन्थे प्राकाशयत्—

'इदमस्ति वैज्ञानिकं समीक्षणं यत्-विज्ञानं प्रति समालोचनात्मकम् अनुशीलनं स्यात्, सत्यं प्रति, नवीनज्ञानं प्रति परम् अनुसन्धानं स्यात्, अपरीक्षितं तथ्यं प्रति निषेधसामर्थ्यं स्यात्, नवीनं पुष्टं प्रमाणं प्रति यथामुखीनो भूत्वा परिष्कारप्रतिज्ञानं स्यात्, केवलं सुपरीक्षितं तथ्यं प्रति, न तु पूर्वाग्रहग्रस्तं तथ्यं प्रति स्वीकरणं स्यात्, चिन्तनं प्रति कठोरम् अनुशासनं स्यात्,—सर्वमेतत् न केवलं विज्ञान-संरक्षणाया-पितु जीवनसंरक्षणाय अथ च विविधसमस्या-समाधानाय अत्यावश्यकं वरिवर्ति।

तथ्यमेतन्नासीदपरोक्षं प्रेक्षावतां विदां वराणां संस्कृतविश्वविद्या-लयसंस्थापकानां डा० सम्पूर्णानन्दमहोदयानाम्—

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prevalent once upon a time; should this divine language shut the lips of new knowledge ?

It is this view that was visualised by Pt. Jawahar Lal Nehru in his most famous book—

"It is the scientific approach, the adventurous and yet critical temper of science, the search for truth and new knowledge, the refusal to accept anything without testing and trial, the capacity to change previous conclusions in the face of new evidence, the reliencc on observed facts and not on pre-conceived theory, the hard discipline of mind-all this is necessary, not merely for the application of science but for life itself and the solution of its many problems."

Quite similar is the observation of Dr. Sampurna-nanda a scholar of great eminence and the founder of the Sanskrit University—

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'विज्ञानं दर्शनमवरजाग्रजमिव भ्रातरं संघर्षयिष्यतीति मम निश्चितं मतम्। असंस्थापिते दर्शनविज्ञानसमन्वये उभयोर्हानिर्भविष्यति। ऋषिपूत्क्रामत्सु देवा मनुष्येभ्यः तर्कमृषिं प्रायच्छन्निति गिरन्तोऽपि वयं तर्काद् भीता इव वर्तयामः'।

अत इदमस्ति कालानुविधायि चिन्तनं यत् विषयस्य सम्पूर्णस्वरूपोपलम्भाय अद्यावधि दृष्टं सम्पूर्णं तथ्यम्, अविगणय्य पक्षं विपक्षं वा, संस्कृते संगृह्येत। संस्कृतभाषैषा सवलविचारवाहिका सती सर्वेभ्योऽद्यावधि दृष्टेभ्यः पदार्थेभ्यः शब्दप्रदानेन शब्दार्थयोः सम्बन्धम् अवश्यं निर्वक्ष्यति। दार्शनिकं वैज्ञानिकं च तथ्यं समं संस्थाप्य उभयपक्षीयं चिन्तनमस्माभिः काममास्थेयम्। इदं तु नैवास्ति प्रविवेकि नापि च यथार्थपरं यदनयोर्मध्ये किमपि चिन्तनं दूरं पातितं स्यात्। एकतरत् चिन्तनं तथैव सम्माननीयं, श्रद्धास्पदं च यथैवास्त्यन्यतरत्। अत एवास्माभिः नवचिन्तनस्य नवशोधस्य च तर्कतुलायाम् अन्यतरस्य

"I am of the opinion that the science and philosophy will stand face to face but with a brotherly concord. If there be no harmony between them, it will lead to want to both. Even though we recall the story of the sages —'they while passing away from the world, the deities gave 'reasoning' as seer to the people to ponder the truth' we have a shrunken look to the rational observation.

It is therefore a need of the hour, a call of the day, on the part of Sanskrit to take stock of all courses and factors for and against to take full portrait of the subject. The Sanskrit as a powerful vehicle of expression is bound to meet the prime obligation between word and thought. We should develop a synthetic point of view keeping side by side the principles of philosophy and those of modern science. It is neither genuine nor politic to throw either of the principles out of the court. One is as venerable to us as the other. We

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चिन्तनस्य कृते यथोचितं स्थानं प्रदेयम्। प्राचीनं विज्ञानं तत्सीमकमस्माभिः स्वीकार्यं यथाऽऽधुनिकं विज्ञानं तेन सह संवादं भजेत्। एवं प्राच्यनव्यसिद्धान्तयोः तथा विशिष्टं सन्तुलनमस्माभिरास्थेयं यथैकः सम्मिलितः सिद्धान्तः संस्थापितः स्यात्। सत्यम्, अनेनैव पथा पं० जवाहरलाल नेहरू महोदयानां, डा० सम्पूर्णानन्दसदृशानां महाभागानां परिकल्पनं वयमर्थापयामः।

विषयोऽयं साम्प्रतं कतिपयैरुदाहरणैरुपवृंह्यते–

वायौ गुरुत्वम्––न्यायशास्त्रे वायुरयं गुरुत्वहीनः प्रतिज्ञायते। गुरुत्वमदः गुणरूपं पृथिवीजलाभ्यां नाधिके नापि च न्यूने द्रव्ये समवायेन सन्तिष्ठते। पृथिवीजलयोरेव पारिभाषिकं गुणरूपं गुरुत्वं समवैति। गुरुत्वेनैव सता ऊर्ध्वं प्रक्षिप्तो लोष्टोऽपि नीचैः पतत्येव केवलम्। गुरुत्वं विना तु ऊर्ध्वदिशं सक्रियो लोष्टः न कदापि विप-

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should therefore give a genuine place to them under the weight of new evidences and new researches. We should uphold old principles as far as they are solvent to the modern science. We should thus keep poise and equilibrium between the facts of the old and the new and should synthesize them in such manner as it become a common set of principles. It is only by this way that we add the substance to the ambitious vision taken by no less personality than Pt. Jawahar Lal Nehru and Dr. Sampurnanarda etc.

We may give a few examples in illustration of what we have said above—

The weight of air-The air is regarded to be weightless. As Nyaya philosophy goes by, 'the weight' being an inherent quality of a substance, lives upon no more and no less substance than earth and water. This 'weight' is a technical term showing an inseparable quality of a substance by virtue of which a lump of earth, though thrown up into sky, tends to fall down

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रीतदिशं क्रियाशीलः स्यात्। अतएव आद्यपतनासमवायिकारणं गुरुत्वमिति सिद्ध्यति।

न्यायशास्त्रं प्रतिजानीते यत् विपरीतदिशं प्रति अधःपतनमेतत् पृथिव्यां जले एव सन्दृश्यते नान्यत्र क्वापि। अतः पृथिवीजलयोरेव समवैति गुरुत्वं, न तु वाय्वादिके।

गुरुत्वमिदम् अप्रत्यक्षमपि अनुमानप्रमाणसंवेद्यं वरिवर्ति। पृथिव्यादिद्रव्यस्योत्थापनाय समनुपाति बलमस्माभिरुपयुज्यते। यावदधिकं बलमुपयुज्यते तावदधिकं तत्र गुरुत्वमित्यनुमीयते। तुलादण्डस्योन्नतिरवनतिश्च न्यूनगुरुत्ववता, अधिकगुरुत्ववता च द्रव्येण सम्पद्यते। एतदस्ति साधीयोऽनुमापकं गुरुत्वस्य। वायौ तु इदमनुमानं नैव शक्यते संस्थापयितुम्। अत एव वायौ नास्ति गुरुत्वम्।

आधुनिकं वैज्ञानिकं मतम्—सिद्धान्तोऽयं पुराकाले विश्वस्मिन्

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on the earth. But for such a special inner quality, the reverse action would not have been. Consequently, 'a weight' is that, that causes in the first moment, a downward tendency into a mass going up into sky.

Nyaya philosophy considers that this reverse action takes place upon no other substance than earth and water. The two have therefore the quality of weight upon themselves nothing else.

This weight, not perceptible to our eyes is cognized by inference. We have to exert our strength in direct proportion of the weight to lift a substance. The more we have to exert our strength to lift a thing, the more weighty it is. Rising up and falling down of the beam of a balance is caused by respectively less and more weighty substance. It is thought to be good instrument to show the weight of the same. Earth and water have thus weight but not air do so.

The modern scientific view—The theory under review has once won the world consonance among

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जायोद्घोषितमासीत्। शताब्दद्वयात् पूर्वं वायौ गुरुत्वं सर्वत्र प्रतिज्ञातमासीत्। उनविंशतितमे शताब्दे तु जनास्सविस्मयं, सचमत्कृतिं वायौ गुरुत्वस्य प्रयोगमद्राक्षुः। तस्मात् कालात्तु वायौ गुरुत्वसिद्धये संख्यातिगाः प्रयोगा वैज्ञानिकैरन्वैष्यन्त।

वायौ गुरुत्वस्य तत्कृतायास्सम्पीडकताया अस्वीकारे द्रवचूषणयन्त्रविधिर्नास्माभिः शक्यते व्याख्यातुम्। नापि च वायुगुरुत्वकृतं वर्षणं वायुवेगादिकं च शक्यते व्याचष्टुम्। अत्युच्चपर्वतं गतः यायावरः, यदि नाम न सः वायुगुरुत्वप्रभावविषये प्रबोधितः स्यात् तर्हि स विस्मयविधेयोऽसहाय एवं विलपनाय दूरं पातितः स्यात्–'हन्त भोः, कथमियं कठोरा दालिरुद्वालितेऽपि जले नैव गलति!!' तथान्येतानि गुरुत्वहीनो वायुरिति मननायास्मान् निषेधन्ति।

न्यायो हि तर्कनिकषोपलतां तनोति—न्यायः विचारयति यत्

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scholars. Till two centuries ago, the theory of weightlessness of air was dominant upon scientists of the world. It is only in the nineteenth century that the world has seen with thrilling joy, with astonishing sensation the experiment to prove the weight and pressure of air. Since the scientific wisdom has sought infinite ways to prove the weight on the air.

If there be no quality of weight and pressure on the air, we cannot explain the action of a siphon which preps up the liquid. Nor can we explain the changes of weather-day, rain, storm-until atmospheric pressure is taken into account. At the mountain, we may leave a tourist in the lurch to amaze, "How hard it is to boil an egg or pulse in boiling water!!" without telling him a decisive role of air-weight and pressure. All these things cannot allow us to accept the weightless air.

The Nyaya theory may be put to the test—The Nyaya argues that upper air does not fall down but

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वायुरयं नैवाधः पतत्यपितु तिर्यग्गच्छति। अत एवाद्यपतनासमवायिकारणकं गुरुत्वं तत्र नैव सन्तिष्ठते।

विचारणं पुरा प्रीतं नैव सम्प्रति साम्प्रतम्। उपरितनो वायुर्न गुरुत्वहीनतया, अपितु नीचैः स्थितेन वायुना प्रतिबन्धिततया नैवाधः पतति। सर्वाण्यपि वस्तूनि नीचैः स्थितैः वस्तुभिः प्रतिबद्धानि सन्ति नैवाधः पतन्ति। पात्रे स्थितस्य जलस्योपरितनो जलभागः नीचैः स्थितेन जलेन प्रतिबद्धः सन्नैवाधः पतति। वायुविषयेऽप्येतत् सत्यम्। यदि कथमपि नीचैः स्थितो वायुरस्मान्निर्निष्क्राम्येत, तर्हि वायोरधः पतनादवरोद्धुं न कोऽपि क्षमते।

काचवर्तितैलप्रदीपोऽनेनैव सिद्धान्तेन शोभनं ज्वलति। तत्र काचान्तर्गतवायुरुष्णीभूय उपरिष्टात् प्रयाति। एवं नीचैरवकाशे सति तस्य स्थानपरिपूरणाय उपरिस्थो वायुस्तत्कालमधः पतति। एवं काचद्वारा उपरितनवायोरधः पतनेन तत्र वायुप्रवाहोऽनारतं

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blows indiscriminately to and fro. It has not therefore the weight—a quality responsive to make a substance fall down.

This arguement, however, does not stand to reason. The upper layer of the air does not fall down—not because of its inherent quality of weightlessness, but because it is resisted by the lower layer of air to do the same. All things show the same charecter under this condition. A water in the upper surface cannot fall down on account of getting resisted by the lower layer of the same. The same remark holds good for air. If there become a vacuum in the lower space, none can save the air column from falling down on the earth.

A kerosene lamp flames up well by the same principle. The air inside the lamp quickly warms up and rises streight up. Then the air of upper layer falls down in the instant to take its place. The role of the

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संचरति। एवं वायौ गुरुत्वस्य सर्वाणि तानि लक्षणानि सन्दृश्यन्ते, यानि पृथिव्यादिषु दृश्यन्ते। एवं वायौ गुरुत्वहेतुकस्य अधःपतनस्य स्वरूपयोग्यता त्वस्त्येवेति सिद्धं भवति।

अन्यच्च–न्यायशास्त्रे पृथिव्यादिषु गुरुत्वपरिज्ञानाय प्रोक्तमनुमानं वायावपि सुतरां संजाघटीति। गुरुत्वपूर्णद्रव्योत्थापनाय गुरुत्वानुपाति बलमुपयुज्यते, तुलादण्डावनतिश्च तत्र भवतीति तथ्यद्वयं वायावपि शक्यते समं द्रष्टुम्। वयं 'रबर ट्यूब' द्वारा दृढं पिहितं काचपात्रं स्थापयामः। इदानीं वायुचूषणयन्त्र द्वारा वायुं निष्कास्य पात्रं तुलयामः। अनन्तरं यदि पूर्ववत् वायुं प्रदाय तुलयामस्तर्हि तत्र गुरुत्वप्रमाणभूता तुलादण्डावनतिर्भवति। साम्प्रतं तुलादण्डे साम्यस्थापनाय तुलाया

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glass thus consists in intensifying the stream of air by causing the upper air to fall down. We may thus see the same quality, the same charecter of weightlessness on air as has been shown in any of the substance. The air has an inner quality in itself of falling down by its weight.

Secondly, the inference shown by the Nyaya to prove weightfulness on a substance, may majestically be applied to the air too. That the strength is exerted to lift an air in proportion of its weight and the beam of a balance is operated upon air glass bulb as well as all other substances, may simply be proved by an experiment. We may take a strong glass bulb closed with a stopper with a clamped rubber tube inserted into it. We pump the air out of the bulb and weight on a balance. If now we open the clamp and let air into the bulb, the beam of the balance will fall down. To attain the equilibrium again, we must put weight on the other pan of the balance equal to the weight of

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अन्यपात्रे भारस्थापनम् आवश्यकं भवति। अनेन वायौ गुरुत्वं शक्यते सुतरामनुमातुम्।

२. किं चक्षुष्टः रश्मयः निष्क्रामन्ति—न्यायशास्त्रेऽन्येषु च दर्शनशास्त्रेषु चाक्षुषं प्रत्यक्षं महता सम्भारेण समुपवर्ण्यते। न्यायशास्त्रानुसारेण-यदा चक्षुष्टः रश्मयः निःसृत्य चक्षुरिन्द्रियप्रकाशयुतवस्तुनोः संयोगसन्निकर्षं स्थापयन्ति तदा चाक्षुषं प्रत्यक्षं सम्पद्यते। चक्षुरिन्द्रियं तेजोनिर्मितं सत् बाह्यार्थं प्रति रश्मीन् निःसारयितुं क्षमन्ते।

सिद्धान्तोऽयं स्वयंसिद्धं तथ्यमेकं संवदति। प्राप्यकारीणि इन्द्रियाणि सन्ति इन्द्रियार्थं सन्निकर्षं विना न किमपि प्रत्यक्षं सम्पादयितुमर्हन्ति। यतो हि चाक्षुषं प्रत्यक्षं प्रत्यपि तथ्यमेतत् सत्यम्, अतश्चाक्षुषप्रत्यक्ष-सम्पादनाय चक्षुरश्मिद्वारकः चक्षुरिन्द्रियार्थयोः संयोगसन्निकर्षः सम्पाद्यते।

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the air in the volume of the bulb. The air is thus cannot be held to be weightless.

2—**Does the eye emit the rays**—The process of perception by the organ of sight has been illustrated in fulness of details by the Nyaya along with all other schools of philosophy. As the Nyaya goes by, when the optical rays proceed from the eye to the external lighted object and make a 'relation' upon them, the visual perception takes place. The apparatus of vision-eye being made of fire-atoms is able to emit the rays to the external object.

This doctrine of perception has, in fact, been enunciated to entertain a hypothesis: no perception can be made without making a 'relation' upon respective sense organ and external object. As it holds good to the visual perception too, this 'relation' is made upon emanating rays from the eye and external object.

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आधुनिकं वैज्ञानिकं तथ्यम्—तथ्यमिदं पूर्वस्मिन् काले जयोद्घोषितमपि नवप्रमाण-परिशीलन-शालिनः जनाः नैव स्वीकुर्वते। चक्षुरिन्द्रियं स्वनिर्मितं प्रकाशं नैव संरक्षति। वाह्यप्रकाशप्राप्तिं विना चक्षुरिन्द्रियं तथैव प्रकाशपरिहीणं यथान्यत् किमपि द्रव्यम्। तथाप्यन्येभ्यो द्रव्येभ्यश्चक्षुषोः वैशिष्ट्यमिदं यत् चक्षुरिदं वाह्यप्रकाशम् अवशोषयत्यपि, अपवर्तयत्यपि। एवं चक्षुरिदं वाह्यपदार्थतः परावर्तितान् सूर्यकिरणान् अवशोषयति, अथ च दृष्टिपटले प्रतिविम्बं निर्मिमीते। चक्षुषोऽनेनैव कार्येण वयं 'दर्शनम्' इत्येवं प्रचारयामः।

परं पूर्वप्रदर्शितः सिद्धान्त आधुनिकेनवैज्ञानिकेन प्रकाश-सिद्धान्तेन सह न संगच्छते। यदि चक्षूरश्मयः चक्षुषों निःसृत्य वाह्यपदार्थे परिपतेयुः, न तु वाह्य पदार्थतः परावर्तितास्सूर्यकिरणाश्चक्षुः प्रविशेयुस्तर्हि वाह्यपदार्थ-प्रकाशानुरूपं दृष्टिपटले प्रतिविम्वनिर्माणादिकम् आधुनिकं विधिं कथं वैज्ञानिकाः व्याचक्षताम् ?

The modern scientific view—This standpoint, though once won ovation amongst scholars of most part of the world, has fallen into dishonour in face of the new facts. Our eye, as a matter of fact, has no light of its own. Without external light it is as dark as all other substances. What distinguishes it from other lightless things is its inherent quality of absorption and refraction of the external light. The eye thus absorbs the sunlight coming from the object as a result of reflection and reproduces thereby an image upon retina. It is this charecter of the eye by virtue of which we get ourselves seeing.

The hypothesis, however, referred to above, repudiates so truely the modern science of sight as not to meet and greet each other. If there be emission of the rays from the eye into object but not reflection of the sunlight from the object into eye, how can we find the scope for explaining the optical activity-the reproduction of the image on the retina etc. ?

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अस्माकं चक्षुषि प्रकाशनिर्माणाय न कोऽपि विधिरुपयुज्यते। प्रकाशोत्पादनस्य, प्रकाशपरिवर्तनस्य च येऽपि विधयः परिज्ञायन्ते, तेषु न कोऽपि विधिश्चक्षुषि संघटते। ऊष्मोर्जं, रसायनोर्जः, वैद्युतोर्जश्च प्रकाशरूपेण परिवर्त्यते। चक्षुरिदं सापेक्षतया मन्दोष्माणं विभ्रत् नास्ति प्रकाशपरिवर्तनायालम्। नापि च चक्षुरिदं खद्योतादिकमिव प्रकाशनिर्माणाय स्वस्मिन् प्रकिण्वमभिरक्षति। नापि च चक्षुरदः विद्युदूर्जसः प्रकाशे परिवर्तनायाद्यत्वे परिज्ञातानि साधनानि स्वस्मिन्नभिरक्षति।

न्यायदर्शनशास्त्रेऽनुमानेन चक्षूरश्मयः साध्यन्ते। यतो हि नक्तंचराः प्राणिनः मार्जारोलूकादयः स्वचक्षुर्भ्यः खद्योता इव रश्मीन् निःसारयन्ति। अत एव तेषां चक्षूंषि रात्रौ दीप्यन्ते। मार्जारोलूकेषु मनुष्येषु च चक्षुष्ट्वं सामान्यमेव। अत इदं प्रबलमस्त्यनुमानम्—यत्र यत्र चक्षुस्तत्र तत्र चक्षुषो रश्मीनां निःसरणम्, यथा मार्जारादीनां चक्षुः।

Our eye has no system of producing the light by itself. All the systems of production and conversion of the light have nothing to do with the eye. Heat, chemical and electrical energy may be conversed into light. Our eye has not such a blazing heat as to generate the light. Nor does it have any light-enzime to produce the light like a glow-worm. It has not also the means to make its electrical energy convert into light.

The Nyaya has proved by inference the rays of light on our eyes. It holds that some animals like cats, owls etc. emit perceptibly the rays of light from their glowing eyes like a glow-worm. As the eyes of their animals and those of the human beings are identical in form and nature, it gives rise to the inference—whosoever has eye has light on it e.g. the eye of a cat.

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अनुमानमिदं यद्यप्यतीव रुचिकरं तथापि नेदानीं चतुरचेतसां चेतसि चमत्कारमाविष्करोति। मार्जारा अन्ये च नक्तंचराः प्राणिनः नैव चक्षुःषु स्वप्रकाशं विदधति। विश्वस्मिन् न कोऽपि प्राणी चक्षुषोः स्वप्रकाशधारणाय देवानां वरं वृणीते। परं रात्रौ तेषां चक्षुःषु दीपनाय यदेवास्ति वैचित्र्यं तस्य व्याख्यानमेवमस्ति सुशकं यत्ते बाह्यतः समागतम् अल्पतमं प्रकाशमपि परावर्तितुं क्षमन्ते। केवलमिदं व्याख्यानमस्य समाधानाय संवर्तते साम्प्रतं यद् गाढान्धकारे मार्जारादीनां चक्षूंष्यपि अस्माकमिव कथंकारं कृष्णानि भवन्ति। अनेन नवीनेन प्रमाणेन न्यायप्रोक्तमनुमानं वैशद्यं विजहाति।

निर्दोषस्य प्रश्नस्य सदोषं समाधानम्—विषयेऽस्मिन् न्यायकन्दल्यां रोचिका प्राश्नप्रतिवचनिका सन्दृश्यते। यदि नाम प्रश्नोऽयम् अन्यया पद्धत्या व्याख्यायेत तर्हि निष्कर्षः कोऽप्यन्यः सम्पद्येत।

The inference, though very interesting in itself does not make a passionate appeal into rational mind. The cats and the like on their eyes have no light of their own. As a matter of fact, no animal, active at night is blessed to keep the light on its eye as its inherent property. Whatever is his is only an amazing capacity to reflect even the dim light coming from without to keep its eye glowing. For this alone can account for the fact, why, in the deep darkness the eyes of cats are as helpless to keep their eyes glowing as those of ours. By these new evidences the inference of the nyaya goes to the wall.

A flawful answer of the flawless question—Here we have a very interesting question and answer referred to in the Nyaya Kandali. Had it been seen in the right perspective, it would have led to the right conclusion.

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अयमस्ति सर्वजन-संवेद्योऽनुभवः यदस्माभिः द्वौ वा अतोऽप्यधिका वा पदार्थाः समकालं द्रष्टुं शक्यन्ते। घटनैषा न्यायशास्त्रेणैवं व्याख्यायते यदस्यां परिस्थित्यां चक्षूरश्मयः द्वयोरतोऽप्यधिकेषु च पदार्थेषु समकालं पात्यन्ते।

अस्यां दशायां प्रश्न एवमुदेति यत् एकास्ति पुरःस्थिता शाखा, अपरश्च चन्द्रः—द्वयोरेतयोः पदार्थयोः परस्परं दैशिकं महदन्तरमनु विधायिनोः कथं चक्षूरश्मयः समकालं पतितुं क्षमाः। यदि ते न पतन्ति तत्र समकालं तर्हि कथं शाखाचन्द्रमसौ समकालं द्रष्टुं शक्येते?

अस्य न्यायोक्तमुत्तरं कुशकाशमालम्बते। तस्येदमुत्तरम्—चक्षूरश्मीणामतिजवित्वात् सर्वमवदातम्।

आधुनिकं चिन्तनम्—यद्यपि प्रकाशः महाजवित्वमभिरक्षति, तथापि न सर्वत्रापि तत्कालं प्रसरति। प्रकाशोऽयं प्रतिसेकेण्डकालं ३,००,००० किलोमीटरमितमध्वानं लङ्घयति। अस्मादेशादूर्ध्वं तु प्रकाशः एकसेकेण्डकालादूर्ध्वमेव परिपतितुं क्षमते। यतो हि चन्द्रोऽयं पृथिवी-देशात्

As a matter of our common knowledge, we may see two or more objects at the same moment. This phenomenon is simply expalained by the Nyaya that in such case the rays from the eye are thrown down upon many objects at the same moment.

Here the question arises: how can the rays from the eye be thrown simultaneously upon the tree yonder and upon the moon-the two having extensively very wide gap between them, and if not, how can the two be seen at the same moment.?

The answer, however, catches a straw stating that due to tremendous velocity of the rays from the eye, everything is all right.

Modern view—The light, though it has undoubtedly tremendous velocity, cannot propagate everywhere instantaneously. The speed of the light is 3,00,000 k.m./sec. and beyond that distance the light.

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३,८४,००० किलोमीटरमितं दूरं विद्यते, अतः पृथिवीदेशात् चलितः प्रकाश १$\frac{१}{३}$ सेकेण्डकालात् पूर्वं न कदापि चन्द्रं प्रति गन्तुं क्षमते। अस्यां दशायां न्यायविधिना न कदापि शाखाचन्द्रमसौ समकालं द्रष्टुं शक्येते।

अत इदमस्ति श्रायसं यत् चन्द्रकिरणाः चक्षुषि परिपतन्ति। न तु चक्षुषः निःसृताश्चक्षूरश्मयः चन्द्रमसं प्रति व्रजन्ति। वयं सदा १$\frac{१}{३}$ सेकेण्डकालात् पूर्वं वर्तमानं चन्द्रं पश्यामः !!

किं सुवर्णं तैजसम्—सुवर्णमपि तैजसमिति दर्शनशास्त्रेषु प्रतिज्ञायते। विविधान्यनुमानानि, नैकानि प्राचीनानि साक्ष्याणि चास्य तैजसत्वसिद्धये आविष्कृतानि। सिद्धान्तोऽयं प्राचीनान् ब्राह्मणग्रन्थान् अनुहरति, यत्राग्नेरपत्यरूपं तैजसं हिरण्यमिति प्रोक्तं विद्यते। सिद्धान्तोऽयम् अस्यैकं विलक्षणं वैशिष्ट्यमनु प्रचारमाप यत् सर्वाण्यपि वस्तूनि अग्निसंयोगेन कृष्णानि भवन्ति, परं सुवर्णन्तु न न तथा। इदं तु यथा यथाऽग्निना संयुज्यते तथा तथा प्रकामं प्रदीप्यते।

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will reach only after one second. As the moon is 3,84,000 k.m. away from the earth, the rays from the eye cannot propagate to the moon earlier than 1$\frac{1}{3}$ second. Under such condition, no tree and moon can be seen simultaneously by the Nyaya principle.

It is thus for our conscience'sake that the rays of the moon are thrown into the eye but not that the eye emits its rays to the moon. We always see the moon whatever it was 1$\frac{1}{3}$ second before !!

3.—**Is the gold made of fire-atoms**—Gold is also regarded to be made of fire-atoms. A number of detailed inferences and a lot of old testimony are deviced to give it genuineness. The doctrine is, in fact, inherited from a number of Shastric remarks which inclined to hold it as an offspring of fire. This deep-rooted standpoint lie embedded on an astonishing charecteristic of it: while all other things are subjected to be disfigured or destroyed by fire, it is not decided by the same fate.

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वैशिष्ट्येनानेन परं प्रीयमाणा, जना इदं हि रम्यं हिरण्यं द्रव्यं शोभन-वर्णार्थकं सुवर्णमिति नाम्ना व्याजहुः। प्राचीनं शास्त्रमनुचलन्तः दर्शन-शास्त्रधिषणाश्च तामेव 'तैजसं सुवर्णम्' इति वाचमुपशुश्रुवांसः। अस्य तैजसत्वसिद्धये इदमपरमनुमानं तैराविष्कृतम्—सर्वाणि वस्तूनि अत्यन्तानल—संयोगे सति वाष्पीभूय उड्डयन्ति सुवर्णमेकं हित्वा। यदि नामेदं तैजसं नाभविष्यत् तर्हि नेदं वैशिष्ट्यमधारयिष्यत्। इदमनुमानं सुवर्णस्य तैजसत्वं साधयति।

रोचकोऽयं विचारोऽपि नैव सम्प्रति साम्प्रतम्। आधुनिकं विज्ञानं कठोरात् कठोरमपि द्रव्यं भीषणभस्त्रासन्धुक्षणक्षुभितं वाष्पीकृतं च विधातुं क्षमन्ते, का नु कथाऽस्य सुवर्णस्य !!

प्रयोगैरमीभिः पूर्वोक्तान्यनुमानानि न प्रमाणपथमवतरन्ति। इदानीमेतानि केवलमैतिहासिकं मूल्यं भजन्ते।

The more it is heated the more it glitters. The saints of ages have gone so far with this yellow metal as to designate it to be '*Swarna*' 'a thing of beautiful colour'. In pursuance of the old concept the philosophic wisdom was also intent on making it of fire-atoms. It is inferred by its another distinguishing feature. All material things having been melt by fire are ultimately subjected to be evapourated except one thing-what is called gold. Had it not been made of fire-atoms it would have not met with such a difference. It testifies to gold made of fire-atoms.

This concept, interesting though it is, fails to carry weight in the face of new strong facts. Modern science has come off with flying colours to make all hard things among the hardest evapourate by the strength of giant blast furnaces, not to speak of such trifles as gold!!

By all these experiments, a number of inferences said above lost their grounds to flourish. We may

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अमीषां वैज्ञानिकपरिणामानामभिव्यञ्जने संस्कृतं न कदापि नैयून्यमावहति। कालोऽयं समागतः सर्वेषामपि तथ्यानाम् आधुनिकैः सिद्धान्तैस्सह परिष्कारपद्धत्या सामञ्जस्यायेत्यलम्।

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attach a value to all these refences only on historical grounds.

The Sanskrit cannot lag behind to give the expression to all these scientific results. Hour has struck to adapt all these facts to modern principles by way of a system of modification.

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सम्मतयः

Opinions

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पाठकान् प्रति—

विचारोत्तेजकं पुस्तकं साम्प्रतम् विषयेऽस्मिन् लेखकः श्रीमतां बहुमूल्यास्सम्मतीरामन्त्रयते। संस्कृताध्यक्रमपरिवर्धनाय जनेषु तर्कपूर्णविचारोद्बोधनाय च श्रीमतां सायुज्यमपेक्ष्यते। संस्कृताध्ययने नवविचारावरोधनिरासहेतुकस्य आन्दोलनस्य प्रवर्तनाय श्रीमतां सहयोगं परं प्रतीक्षतेऽयं लेखकः।

To the readers—

The thought-provoking book is now on your hand. We invite your valuable opinions and suggestions on this buring topic. Please share with us in creating a general understanding among the masses towards reviewing present Sanskrit curriculum. The author is eagerly looking forward your active co-operation in waging a movement against the stagnation in the teaching and learning of Sanskrit.

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